

HOARD'S ROCKS, MONONGAHELA RIVER.

LETTER

FROM

THE SECRETARY OF WAR,

IN REFERENCE TO

*The works upon Hoard's Rocks, Monongahela River.*

FEBRUARY 5, 1879.—Referred to the Committee on Commerce and ordered to be printed.

WAR DEPARTMENT,  
Washington City, February 4, 1879.

The Secretary of War has the honor to transmit to the House of Representatives, for the information of the Committee on Commerce, copy of a letter from Maj. W. E. Merrill, Corps of Engineers, dated the 29th ultimo, reporting that the work of last season at Hoard's Rocks, Monongahela River, resulted in a failure, and that a further appropriation of \$24,000 is needed to complete the work.

GEO. W. McCRARY,  
Secretary of War.

The SPEAKER of the House of Representatives.

UNITED STATES ENGINEER OFFICE,  
Cincinnati, Ohio, January 29, 1879.

GENERAL: I regret to state that, owing to causes which I will explain, the work of last season at Hoard's Rocks, on the Monongahela River, resulted in failure, and that a further appropriation of \$24,000 is needed to complete the work.

I make this statement in consequence of the fact that this failure has taken place since the annual report on the Monongahela River was written, and of the additional fact that on my recent visit to Washington I learned that the department had not submitted any estimate for work on the Monongahela River.

The following is a concise history of last season's work. As soon as possible after my return from Europe work was begun on the dam at Hoard's Rocks, with a very fair prospect that it could be finished before the close of the season.

It was soon found, however, that unexpected difficulties beset the undertaking. The work had been left in *statu quo* for two years, and

during that time the contractor's plant had been returned, and our own plant had so greatly deteriorated by time and exposure that we were practically without means to do anything. New derricks, lines, boats, and steam-pumps had to be provided, and both the time and the cost of procuring a new outfit and supplies of cement and all other materials were considerably increased by the fact that one of the locks of the Monongahela Navigation Company fell in, and was impassable during almost the entire working season.

The delays due to these causes postponed the commencement of actual work of construction until quite late in the season. When we began to lay masonry, the following was the condition of the dam, as reported to me by the engineer who had charge when work was suspended in 1876:

A length of 75 feet was without masonry. An additional length of 80 feet had only the foundation course.

Of the remainder of the dam a portion was entirely completed, and the rest was well above water, and presented no difficulty.

Under the circumstances it was reasonably held that the work could be finished in one season, should no serious contingency intervene.

It was found at the start that the river bed was so filled with the *débris* of the old coffer-dams that the construction and drainage of new coffer-dams was more difficult than ever. While building and pumping out the first new coffer-dam, masonry was rapidly laid on the partly finished sections of the dam. After this new coffer-dam was pumped out, the astounding discovery was made that the end of the old work was resting on from 3 to 4 feet of gravel. This work was torn up, and the gravel all removed. This required the destruction of a length of 60 feet of the dam, on about half of which we had laid new masonry, on the natural supposition that the courses on which it was placed were well and truly founded on rock. A total amount of 300 cubic yards was thus torn up and relaid.

This delay, at the time when every day was precious, was the chief cause of the failure of the season's work. We ultimately succeeded in laying about two-thirds of the foundation course of the last section of the dam, and one week more of low-water would have seen us out of our difficulties. I was personally at the work when the last section of the coffer-dam was pumped out, and started for Cincinnati with a feeling that our troubles were over. Before I arrived at my station the coffer-dam was flooded by a succession of small rises that prevented further work. After several weeks' waiting and struggling, the undertaking was finally abandoned. This involved the dismantling of the steam-pumps, engines, derricks, &c., the return of hired boats and pumps, and the destruction of an expensive coffer-dam across the head of the lock, that stopped navigation.

The practical result is that we are very little better off than we were at this time last year, except that we have discovered and remedied a very bad piece of old work, that, if undiscovered, would have ultimately imperiled the safety of the dam. It need hardly be added that no intimation that the whole dam was not founded on rock had previously reached my ears. The regular inspector had reported the bottom to be rock, and the depth of foundation agreed with the depth to rock as reported in the original survey, which itself was erroneous. I can only add that a part of the work was done at night, and that it was overflown before I had time to see it. The inspector in question is no longer in government service.

As it is essential that this work should be finished, and as any delay will only add to the cost of so doing (as experience has sufficiently

proved,) I would earnestly request the department to press upon the Committee on Commerce the necessity of another appropriation.

The estimate of \$24,000 is solely for completing the lock and dam at Hoard's Rocks.

In conclusion, permit me to add that structures in the beds of rivers, especially those designed to stop their flow by dams, are subject to contingencies that can neither be foreseen nor be covered by estimates.

Respectfully, your obedient servant,

WM. E. MERRILL,  
*Major of Engineers.*

Brig. Gen. A. A. HUMPHREYS,  
*Chief of Engineers, U. S. A.*



